

## CULTURES-OF-USE AND MORPHOLOGIES OF COMMUNICATIVE ACTION

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In this article I revisit the cultures-of-use conceptual framework—that technologies, as forms and processes comprising human culture, mediate and assume variable meanings, values, and conventionalized functions for different communities (Thorne, 2003). I trace the antecedent arc of investigation and serendipitous encounters that led to the 2003 publication and conclude by proposing that digital environments and the human experience of activity form unified ecologies with agency distributed through the system.

**Keywords:** Communication Theory, Social Context, Sociocultural Theory, Technology-mediated Communication

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### INTRODUCTION

Digital communication technologies have amplified possibilities for communication in the areas of audience, impact, and speed while also facilitating the emergence of distinctive linguistic, multimodal, cultural, interactional, and cognitive practices. As initially outlined in “Artifacts and cultures-of-use in intercultural communication” (Thorne, 2003), these practices emerge within distinctive cultures-of-use—that is, in the articulation between the immediate contextual aspects of the communicative event at hand and the historically sedimented associations, purposes, and values that accrue to a digital communication tool<sup>1</sup> from its everyday use (Thorne, 2003; see also Thorne, 2006, 2009, 2015; Thorne & Black, 2007, 2011).

It is now an obvious point more than twenty-five years into the digital era, but it is one worth reemphasizing: digital communication tools are not neutral media. Rather, like all human creations, communication tools are cultural tools that carry interactional and relational associations, preferred uses (and correspondingly dispreferred uses), and expectations of genre- and register-specific communicative activity, all of which are learned through processes of language and tool socialization via participation in particular online speech communities. The broader argument, rooted in the cultural-historical tradition (e.g., Bakhurst, 1990; Cole, 1996; Engeström, 1987; Vygotsky, 1978; Wertsch, 1985), is that technologies are constitutive forms of human culture that mediate and shape cognition, communication, and material action. As people interact with tools across contexts and time, the tools are inscribed with variable meanings, values, and conventionalized functions for different communities. This observation became especially salient in the analysis of intercultural communication in online partnerships, where cultural and linguistic differences were typically presented as the source of pragmatic failures and communication breakdowns (Kramsch & Thorne, 2002), but these explanations turned out to be only part of the story.

### EXTENDED BACKSTORY: THE EVOLUTION OF AN IDEA

None of the above mentioned insights were clear to me when I first began carrying out doctoral research in the mid-1990s. I had been dutifully reading the rapidly growing body of research on computer-mediated communication (CMC)—a descriptor that now is somewhat anachronistic as devices and modalities proliferate. Early research suggested that CMC was a lean medium that was inadequate for many task-related needs (e.g., Daft & Lengel, 1984) or that the scant social information available in

synchronous and asynchronous CMC made it inefficient as a medium for significant interpersonal exchange (Dubrovsky, Kiesler, & Sethna, 1991). As quoted in my 2003 article, one of the leading communication researchers at the time, Joseph Walther, quipped in reference to these studies, “if it’s not good for tasks and not good for socializing, then just what is CMC good for and why would anyone use it at all?” (1994, p. 4). Of course, as many of us well knew from our use of CMC in foreign language instruction, levels of communicative engagement were high and students were often deeply invested in specifically synchronous online discussions that would often run long (we frequently had to kick students out of the lab to make room for the next class). As has been reported by some of the pioneers in CALL research, in contrast to face-to-face classroom discussion, synchronous online settings increased participation, students produced more total language across more conversational turns, and the language they used included a wider array of morphosyntactic and discourse features (e.g., Chun, 1994; Kern, 1995). These research findings were compelling and raised an additional question: Were these findings caused purely by the meditational qualities of the tool or was something else also going on?

In my own nascent research, intact classes of French language students were using synchronous chat within a multi-user domain object oriented (MOO) text-based virtual environment in an on-campus computer lab with the instructor co-present. In this setting, they were exhibiting linguistic creativity, word play, and at times, definitively non-academic and (bitingly) sarcastic forms of communication that exceeded what I was seeing in face-to-face classroom settings. In ethnographic interviews, students told me things like “there is less supervision, seemingly, even though the teacher might be online also” and “I talk more on the MOO. There’s less culpability there. I can tell jokes and don’t see their faces” (Thorne, 2000, p. 9; see also Thorne, 1999). Further, and in direct contradiction to the utopian view prevalent at the time that the Internet flattens hierarchies and removes or mitigates social biases, some students were reporting that the online environment was less egalitarian and more judgmental than was face-to-face classroom discussion. This presented a conundrum without explanation in the research literature. I became obsessed with curiosity and a sense of impending discovery.

During this period I was fortunate to have had frequent conversations with the social anthropologist Jean Lave (see Lave & Wenger, 1991). Lave found my work on the interactional features and social ontology of synchronous CMC environments interesting, but she urged me to develop a more robustly theorized account of mediation (in the Vygotskian sense). Concurrent with these conversations was the publication of Nardi’s outstanding 1996 book, *Context and consciousness: Activity Theory and human-computer interaction*. Kaptelinin, one of the authors in this volume, argued the following:

Culturally developed ways of using tools shape the external activity of individuals and through the process of internalization influence the nature of mental processes. . . . The role of tools is not limited to transmission of operational aspects of human interaction with the world. . . . Tools also shape the goals of the people who use them. (p. 53)

Kaptelinin (1996) continued to state that the goals of tool developers (e.g., software engineers) are implicit in the nature of the tools they create, but importantly, a tool’s designed functionality fuses together with the motives of users to form the structure of human activity at a given point and time.

As it happens, I was hanging out with graduate students in cell biology at the time and was given an article that described the relationship between the genotype and phenotype of organisms. (It pays to read broadly!) A genotype is the basic genetic structure of an organism, while a phenotype is the observable characteristics of an organism resulting from the interaction of its genotype with the environment. To give a brief example, two Giant Sequoia trees (*sequoiadendron giganteum*) with identical genotypes can manifest dissimilar phenotypes; one seeded in rich alluvial soil can exceed 80 meters in height while the second, growing in less hospitable conditions, may achieve only a fraction of that size. This catalyzed an epiphany that provided me with the analogic mapping I had been looking for to wed together the design

elements and interactional effects of digital communication tools (genotype) with the ways that such artifacts are meaningfully and differentially perceived based on their histories of use by individuals within discourse communities (phenotype). This became the central organizing taxonomy of my dissertation project (Thorne, 1999), and I used this two-level genotype-phenotype framework to tease apart the material and social-psychological-cultural effects of tool mediation. Findings, which eventually led to the development of *cultures-of-use* in the 2003 article, were that the genotype of (specifically synchronous) CMC tools required users to develop communicative tactics that included an increase in personal addresses (to mark relevance to a desired interlocutor), the use of discourse markers to illustrate the continuance of a conversational thread, and the need to adapt to a turn exchange system marked by the non-adjacency of related posts and a correspondingly weaker overall sense of interactional coherence in large group synchronous CMC discussions (see also Herring, 1999). This aspect of the research was informed by ethnomethodological conversation analysis (e.g., Sacks, Schegloff, & Jefferson, 1984). In particular, I outlined the differences in the turn exchange economy between spoken and computer-mediated multiparty discussion, positing that the missing transition relevance place (where shift of speaker is a possible next action in oral communication) in CMC is a likely structural factor that increases opportunities for contributing a conversational turn (for elaboration, see Thorne, 2000).

The contextual phenotype analysis of instructional uses of CMC provided insight into the importance of language socialization processes that some of these students had undergone in exogenous (i.e., non-educational) on-line communities. In particular, the phenotype analysis helped to explain why experienced CMC users felt less culpability while using decidedly non-academic discourse in online discussions. This was due to the fact that they had been participants in recreational online communities and had imported these dispositions and discourse conventions into in-class CMC discussion. One student described his communication style vis-à-vis his prior participation in an online community as follows:

That's probably why I so . . . enjoyed [French language CMC sessions], because I had done this before in an atmosphere that was totally relaxed. I'm just saying this now, it's like psychoanalysis or something. I had done it before . . . and people were . . . a little bit rude and clever sometimes. I thought it was really funny, so, maybe that's why I have that perspective and . . . take that attitude towards like my classmates [in CMC sessions]. (Thorne, 2000, p. 8)

It is relevant to recall that in the mid-1990s, the Internet was still fresh to the public and many students did not have extensive, or sometimes any, experience participating in non-academic online communities. This created a viscerally perceptible divide in digital communication style and interactional competence that explained the surprising consensus, based on ethnographic interviews, that the online sessions were less egalitarian and more judgmentally fraught than were the face-to-face classroom discussions. At the time, this was a little recognized phenomenon.

## **CULTURES-OF-USE AS AN AXIS OF POTENTIAL DIFFERENCE IN INTERCULTURAL COMMUNICATION**

Emerging specifically from the observation that artifacts are understood phenotypically as a function of their situatedness in human activity, described in the section above, the cultures-of-use of digital communication tools presents an additional axis of potential intercultural alignment and divergence. For participants in the US–France online intercultural exchanges (OIEs) that informed the first of my cultures-of-use publications (Thorne, 2003), the choice to use e-mail was a constraining variable in the intercultural communication process. Not only did many of the e-mail interactions sputter along, they did not happen at all for some participants. This was due, in part, to the fact that e-mail was perceived by numerous students as a medium well suited for vertical communication across power and generational lines (to communicate with professors, parents, employers, and for organization communication), but one that was inappropriate for age-peer relationship building. In an ethnographic interview, one student, Grace,

reported that e-mail was such an unsuitable tool for age-peer interaction that it overpowered the directive by the instructor to continue the exchanges. Although this student liked her French partner and enjoyed the project generally (video conferencing was also included), she chose not to participate in the e-mail exchanges. Grace's perspective was not unique—approximately half of the students interviewed (24 in total) expressed broadly congruent views though usually in less extreme terms. The fact that similar projects have shown that e-mail is suitable for age-peer interaction makes the case that different populations variably construct cultures-of-use associated with this tool, which resultantly collide or align with specific communicative contexts and interlocutor relationships. For Grace, as well as other participants in the study, it is entirely possible that with more explicit or constructive guidance, she might have been able to transform e-mail into a different cultural tool, one that would have better served her communicative purposes. The implication for practice is that teachers and students should critically evaluate mediational artifacts and their cultures-of-use as an important (and generally neglected) dimension of online intercultural communication (for a related argument, see Kern, 2014). In the same OIE project, an opposing condition developed with another student who had had only halting email correspondence with her French partner. In this case, the two of them decided to adopt instant messaging as their medium and subsequently they developed a robust set of exchanges that included frequent chat sessions, explicit attention to language (e.g., prepositions of location, increased pragmatic awareness of the *tu-vous* distinction), an enhanced sense of communicative efficacy, and no small amount of mutual infatuation.

In follow-ups to the 2003 article, I have periodically questioned students about how they use digital communication tools and the accounts of heterogeneity continue. In response to a question about communicating with close friends online in 2006, two undergraduates in separate interviews gave diametrically opposing responses: The first said: “there’s more [positive] sentimentality to email than instant messaging someone.” The second stated the following (quite comically):

Sometimes its hard to fill up a whole email, like if I have to respond to a really long one or something. My ex-girlfriend used to say – “why don’t you just send email?” I’m like, “yeah, why don’t I just kill myself!”

More recently, in response to my suggestion that Facebook had become a transgenerational social media tool, a 19 year-old male offered the following assessment:

Oh yes, I use Facebook and have my [Facebook] *friends* in two categories, a small one for my real friends and a very large group for everyone else, like people in their twenties, parents, teachers, and family. I call the big group ‘old people’ and see that they are on Facebook all the time. Almost none of my real friends use Facebook anymore. We’re all on Instagram.

As a point of clarification, and as the above examples illustrate, while there is substantial evidence that people and communities carry the historical residua of their uses of digital communication tools across time and contexts, patterns of past use do not necessarily determine present and future activity. Rather, the cultures-of-use framework provides a lens through which to explore, and potentially to pedagogically address, tool socialization and its variabilities and consistencies. The interplay of participant membership in multiple on-line communities and the design features of digital communication tools combine to create a complex social-material arena where multiple understandings of appropriate and preferred activity may co-exist, compete, or clash. An additional point of relevance (and complexity) is that on-line activity interpenetrates with off-line contexts and social networks.

## IMPACT AND ONGOING CONSIDERATIONS

At the time of this writing, “Artifacts and cultures-of-use in intercultural communication” has 545

citations (as measured by Google Scholar). A better indication of impact, however, is that the greatest number of citations in a given year, 67, occurred in 2013, ten years after the article's initial publication. The great majority of references to cultures-of-use in the research literature have correctly interpreted its primary emphasis: that artifacts such as digital communication tools are produced by and productive of culturally organized systems of activity. As I hope to have made transparent through reference to the many individuals and theoretical traditions that have enabled my work, cultures-of-use is a collectively generated idea that owes its existence to generations of empirical and theoretical investigation.

I concluded the 2003 cultures-of-use article arguing that humans and their tools co-evolve over time. My current thinking strengthens this position to suggest that networks of humans and artifacts jointly accomplish activity. In this view, tools are "participants in, rather than merely mediators of, cognition" (Shaffer & Clinton, 2006, p. 297; see also Thorne & Black, 2011). Influenced by Latour (2005), who emphasizes processes through which the social is generated, the proposal is that digital environments and the human experience of activity form unified ecologies with agency distributed throughout the system. The possibility of distributed agency does not necessarily imply symmetry between humans and artifacts (see Kaptelinin & Nardi, 2006), but it does suggest that catalysts for action can shift from brains to bodies and to a range of physical and virtual media in the flow of activity. This position contests the dichotomization of artifacts and humans as distinctly independent from one another. Rather, artifacts and humans together create particular morphologies of action. The implication for cultures-of-use is to expand our thinking to include the ontological possibility that it is not only humans who act on, with, and through technologies, but that technologies may also be acting on, with, and through us.

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## NOTES

1. The terms *artifact* and *tool* are used interchangeably.

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